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A Versatile Alarming Method To Get Instant Help During Emergency

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Abstract: **The concept behind this project would be to provide its users having a simple, fast and reliable method of getting help during emergencies. Within this project we're using LPC2148 is primary controller. It is associated with ARM7 architecture. GSM modem is linked to controller through serial interface. The work presents a flexible security and security alarm that you can use by individuals, corporations and establishments which need a cheap but reliable home security system. The unit can be put at any remote location which may be easily utilized through the user. It utilizes a microcontroller for system control, GSM technology for communication and transmits SMS that contains the emergency message and also the Gps navigation location from the sender. The work includes an 8-bit microcontroller ATmega 16, GSM SIM900A module and 2 Android applications for interface using the hardware. The unit has been created for under 1300INR and you can use it anywhere regardless of the area of deployment provided mobile network connectivity can be obtained. Among the application configures the unit. On pressing the panic button, the emergency contact has got the emergency message combined with the Gps navigation location from the sender. technology for communication and transmits SMS that contains the emergency message and also the Gps navigation location from the sender. The work includes an 8-bit microcontroller ATmega 16, GSM SIM900A module and 2 Android applications for interface using the hardware. The unit has been created for under 1300INR and you can use it anywhere regardless of the area of deployment provided mobile network connectivity can be obtained. Among the application configures the unit. On pressing the panic button, the emergency contact has got the emergency message combined with the Gps navigation location from the sender.**

Keywords: **Atmegal6; GSM SIM900A; Android; GPS; Microcontroller; Security;**

I. INTRODUCTION

The hardware product is forever in the waiting mode, meaning it's waiting to become triggered through the push of the mouse which signifies a condition of emergency. On pressing the panic button, the unit transmits out an SMS that contains a pre-saved message and it is Gps navigation location [1]. The machine continues to be designed bearing in mind the needs of the average man and can fulfill the objective of a triggered-home security system. Actually, this product may be used in several ways like, the unit could be triggered with a sensor, for instance, a rain sensor, fire sensor or perhaps a closeness sensor in which a threshold value is chosen, above that the device transmits out information towards the pre-specified number. It uses the GSM mobile communication network to deliver alarm signal and control instruction. The control and communication between your user and also the suggested system are achieved with the SMS protocol obtainable in the cell phone [2]

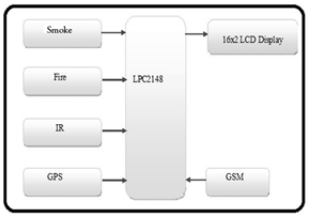

Fig.1.Proposed model

II. PROPOSED SYSTEM

Within this project we're using LPC2148 is primary controller. It is associated with ARM7 architecture. GSM modem is linked to controller through serial interface. Fire, smoke and IR sensors are linked to controller through digital I/O lines. Buzzer also linked to controller to intimate alerts. System will be sending alert SMS when any sensors will get activated. Together with Gps navigation coordinates values. This project uses controlled 5V 500mA power. A 7805 three terminal current regulator can be used for current regulation. Bridge type full wave rectifier can be used to rectify the ac creation of secondary of 230/12V step lower transformer. So, researchers are attempting to simplify the systems and reduce costs of installation and maintenance. Several SMS based home alarm systems were developed. The advantage of this type of product is that there's no recourse from it being hacked because it involves merely a mobile network. Another such system was created, in which a GSM module was interfaced having a pc. Here, clients were attached to the computer through Wi-Fi access points and also the appliances for the home have wired connection to the pc [3]. The general system contains lots of different functional units which combine together and communicate with one another to supply the entire functionality of an alarm system. ATmega16 has 16 KB programmable flash memory and static

RAM of just one KB. The A VR core combines a wealthy instruction set with 32 general purpose working registers. All of the 32 registers are directly attached to the Arithmetic Logic Unit (ALU), allowing two independent registers to become utilized in a single instruction performed in a single clock cycle. It interfaces the SIM900A directly with appropriate power, Sim holder, RS232 serial port for reference to PC, antenna and all sorts of GPIO from the SIM900A. SIM900A module is controlled by ATmega16 which contains user application. Two applications happen to be designed to offer the software functionality for Smartphone users [4]. First, SecureU, provides a method to turn Off and on the applying, alter the details and reserve it. Second one, SecureU Config, utilizes a text to configure the hardware device remotely. This functionality is of vital importance towards the users where put the unit once and end up forgetting it are. As pointed out earlier, our project may be the price tag from the components: Microcontroller, GSM Module and 2 Android applications. The microcontroller Atmega16 and also the GSM Module SIM900A are linked to intercommunicate through the USART device contained in the Atmega16 nick. The Atmega16 is powered having a 5V supply in the 5V output pin within the GSM Module. The 2 buttons within our device are attached to the Atmega16 Exterior Interrupt pins: INTO and INTI on a single finish, and yet another finish is grounded. The USART Transmitter and Receiver are enabled by setting the Transmit Enable (TXEN) bit and setting the Receive Enable (RXEN) bit within the UCSRB Register to 1. Whenever a user transmits a note in order to save new settings within the device, the microcontroller is needed to transmit an SMS towards the user notifying the new settings happen to be saved or the pin within the message is wrong Receiving SMS from GSM Module and saving new settings in EEPROM' To be able to get any data in the GSM Module, the RXC interrupt from the Atmega16 can be used. The RXC flag in UCSRA register is placed once the USART has received a byte in the GSM Module. The RXC interrupt is enabled by setting the RXCIE flag within the UCSRB register. Whenever a new SMS is received by GSM Module, it transmits a brand new message indication to Atmegal6. This message indication begins with CMTI. To be able to identify new SMS arrival, Atmega16 continues examining the URBuff length constantly within an infinite while loop. When the length discovered to be non-zero, the array URBuff is checked for CMTI [5]. The android application created for the work application functions like a communication interface between your sender's side and also the receiver's side. It possesses a very easy to use interface for those its controls and actions. The applying essentially includes two screens for user interaction. The very first screen, for SecureU, includes three buttons namely START, STOP and CONFIGURE. The applying displays just one screen composed four text fields namely Destination Number, Gps navigation Location Number, Message, 4 Digit PIN, Secure device number, PIN. Destination Number: The Ten Digit receiver's phone number is given into seo. Country code (or 91) might be joined as prefix. Gps navigation Location Number: Seo will be full of the mobile number in which the SECUREU application is installed. Seo is just use when Gps navigation location is required. Otherwise this really is left blank. Message: This contains all the details inside a simple text format that's delivered to destination mobile number [6].

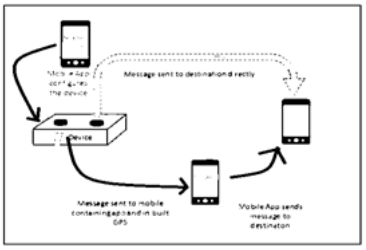

Fig.2.Overview of the model

III. CONCLUSION

This paper effectively implements a triggered home security system according to micro-controller and GSM. The unit costs about 1300 INR and it is used with an android application to keep security at any location via a panic-button. Hence, it may give a cheap, fast and reliable security service for just about any user for use in their homes. The price of this product could be introduced lower to around 500INR with further development plus much more functionality could be added by getting different sensors as triggers. The USART Transmitter and Receiver are enabled by setting the Transmit Enable (TXEN) bit and setting the Receive Enable (RXEN) bit within the UCSRB Register to 1. A frame format of 8 data bits and 1 stop bit is chosen by setting the UCSZl and UCSZO flags to 1 and also the USBS flag to zero within the UCSRC register. We can use cloud storage using GPS. By that we can have monitoring on the system how efficiently its working. For can set emergency number for extreme conditions under which message will be directly send to the respective dept. Like fire department. For Home automation.we can set the system if we are outside and want to switch on or off the AC or water motor .we can operate, for sms based home security system project: We can use cloud storage using GPS. By that we can have monitoring on the system how efficiently its working. For can set emergency number for extreme conditions under which message will be directly send to the respective dept. Like fire department. For Home

automation we can set the system if we are outside and want to switch on or off the AC or water motor .we can operate.

IV. REFERENCES

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AUTHOR's PROFILE

G.S.S Prasad received the B.Tech degree in Electronics and Communications from VR Siddhartha Engineering College and awarded M.Tech degree in VLSI from Kakinada Institute of Engineering and Technology. His areas of interest include VLSI Design, HDI Design and Communication system.

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